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 ********
Welcome to DIALOG

Dialog level 98.04.30D

Last logoff:  20may98 14:52:28
Logon file001 21may98 11:34:43
ANNOUNCEMENT    ****    ANNOUNCEMENT    ****    ANNOUNCEMENT
NEW
***Tampa Tribune (File 432)
***Omaha World-Herald (File 683)
***Directory of Chemical Producers - Products (File 363)
***Directory of Chemical Producers - Companies (File 364)
***IPO Maven (File 754)
***Boston Herald (File 392)
                              ***
RELOADED
***NTIS (File 6)
***PSYCInfo (File 11)
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REMOVED
***International Business Directory (File 760)
***Kirk-Othmer Encyclopedia of Chemical Technology (File 302)
                              ***

     >>> Enter BEGIN HOMEBASE for Dialog Announcements <<<
     >>>    of new databases, price changes, etc.      <<<
     >>>    Announcements last updated    6 May 98     <<<
* * * As of March 23,1998, SRC1, INFO, and EIDDS will no longer be part
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File   1:ERIC  1966-1998/Mar
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      Set  Items  Description
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? b 410

       21may98 11:34:49 User208760 Session D1036.1
            $0.03    0.001 Hrs File1
     $0.03  Estimated cost File1
     $0.03  Estimated cost this search
     $0.03  Estimated total session cost   0.001 Hrs.

File 410:Chronolog(R)  1981-1998/May
       (c) 1998 The Dialog Corporation plc

      Set  Items  Description
      ---  -----  -----------
? set hi ;set hi

HILIGHT set on as ''
HILIGHT set on as ''
? begin 55,72,154,399,351
```

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        21may98 11:35:03 User208760 Session D1036.2
             $0.00    0.003 Hrs File410
      $0.00  Estimated cost File410
      $0.00  Estimated cost this search
      $0.03  Estimated total session cost   0.005 Hrs.

SYSTEM:OS  - DIALOG OneSearch
  File  55:BIOSIS PREVIEWS(R)  1985-1998/May W3
        (c) 1998 BIOSIS
  File  72:EMBASE  1985-1998/May W3
        (c) 1998 Elsevier Science B.V.
  File 154:MEDLINE(R)  1985-1998/Jul W3
        (c) format only 1998 Dialog Corporation
  File 399:CA SEARCH(R)  1967-1998/UD=12820
        (c) 1998 American Chemical Society
*File 399: Use is subject to the terms of your user/customer agreement.
RANK charge added; see HELP RATES 399.
  File 351:DERWENT WPI  1963-1998/UD=9819;UP=9816;UM=9814
        (c)1998 Derwent Info Ltd
*File 351: Some images missing from UD=9816-9818 to be added as soon as
possible. Output formats changed for 1998. See HELP FORM 351 for info.

      Set  Items  Description
      ---  -----  -----------
? s (cd40L or cd40(w)ligand or 5c8 or gp39)(20n)(vaccin? or adjuvant?)

           1515  CD40L
           5612  CD40
         192014  LIGAND
           2178  CD40(W)LIGAND
             64  5C8
            392  GP39
         195416  VACCIN?
          86286  ADJUVANT?
     S1      29  (CD40L OR CD40(W)LIGAND OR 5C8 OR GP39)(20N)(VACCIN? OR
                 ADJUVANT?)
? rd s1

>>>Duplicate detection is not supported for File 351.

>>>Records from unsupported files will be retained in the RD set.
...completed examining records
     S2      22  RD S1 (unique items)
? t s2/7/all


 2/7/1     (Item 1 from file: 55)
DIALOG(R)File  55:BIOSIS PREVIEWS(R)
(c) 1998 BIOSIS. All rts. reserv.

14153776     BIOSIS Number: 01153776
  Upregulation of CD40 ligand and IL-4 expression by the
23-valent pneumococcal vaccine in children with recurrent infections
  Ortigas A P; Butler B; Leiva L E; Sorensen R U
  LSU Med. Cent., New Orleans, LA, USA
  Journal of Allergy and Clinical Immunology 101 (1 PART 2). 1998.  S15.
  Full Journal Title:  54th Annual Meeting of the American Academy of
Allergy, Asthma and Immunology, Washington, DC, USA, March 13-18, 1998.
Journal of Allergy and Clinical Immunology
  ISSN: 0091-6749
  Language: ENGLISH
  Print Number: Biological Abstracts/RRM Vol. 050 Iss. 004 Ref. 061660


 2/7/2     (Item 2 from file: 55)
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DIALOG(R)File 55:BIOSIS PREVIEWS(R)
(c) 1998 BIOSIS. All rts. reserv.

14153358 BIOSIS Number: 01153358
Upregulation of **CD40L** and the Th2 response induced by immunization with the 23-valent pneumococcal **vaccine**
Butler B; Leiva L E; Sorensen R U
Dep. Pediatrics, La. State Univ. Med. Center, New Orleans, LA, USA
Journal of Investigative Medicine 46 (1). 1998. 28A.
Full Journal Title: Meeting of the Southern Section of the American Federation for Medical Research, New Orleans, Louisiana, USA, February 7-9, 1998. Journal of Investigative Medicine
ISSN: 1081-5589
Language: ENGLISH
Print Number: Biological Abstracts/RRM Vol. 050 Iss. 004 Ref. 061242

2/7/3 (Item 3 from file: 55)
DIALOG(R)File 55:BIOSIS PREVIEWS(R)
(c) 1998 BIOSIS. All rts. reserv.

13763548 BIOSIS Number: 99763548
Recombinant viruses as vaccines and immunological tools
Rolph M S; Ramshaw I A
Dep. Immunol., Max Planck Inst. Infection Biol., Monbijoustrasse 2, D-10117 Berlin, Germany
Current Opinion in Immunology 9 (4). 1997. 517-524.
Full Journal Title: Current Opinion in Immunology
ISSN: 0952-7915
Language: ENGLISH
Print Number: Biological Abstracts/RRM Vol. 049 Iss. 011 Ref. 185266

2/7/4 (Item 4 from file: 55)
DIALOG(R)File 55:BIOSIS PREVIEWS(R)
(c) 1998 BIOSIS. All rts. reserv.

13529651 BIOSIS Number: 99529651
CD40-**CD40L** interactions have a critical role in T cell priming induced by tumor **vaccines**
Barth R; Mackey M; Gunn J; Ting P; Noelle R
Dep. Surgery, Dartmouth Med. Sch., Norris Cotton Cancer Cent., Lebanon, NH 03756, USA
Proceedings of the American Association for Cancer Research Annual Meeting 38 (0). 1997. 37.
Full Journal Title: Eighty-eighth Annual Meeting of the American Association for Cancer Research, San Diego, California, USA, April 12-16, 1997. Proceedings of the American Association for Cancer Research Annual Meeting
ISSN: 0197-016X
Language: ENGLISH
Print Number: Biological Abstracts/RRM Vol. 049 Iss. 006 Ref. 094431

2/7/5 (Item 5 from file: 55)
DIALOG(R)File 55:BIOSIS PREVIEWS(R)
(c) 1998 BIOSIS. All rts. reserv.

13472737 BIOSIS Number: 99472737
Suppression of murine thyroiditis via blockade of the CD40-CD40L interaction
Carayanniotis G; Masters S R; Noelle R J
Fac. Med., Health Sci. Cent., 300 Prince Philip Dr., St. John's, Newfoundland A1B 3V6, Canada
Immunology 90 (3). 1997. 421-426.

Full Journal Title: Immunology
ISSN: 0019-2805
Language: ENGLISH
Print Number: Biological Abstracts Vol. 103 Iss. 009 Ref. 128406

The CD40 ligand (gp39) is transiently expressed on activated CD4+ T cells and mediates cognate helper function by interacting with CD40 on B cells. Increasing evidence suggests, however, critical involvement of gp39 not only in antibody-mediated responses but also in the development of effector T cells. Here, we have investigated the effect of in vivo gp39 blockade on the induction of murine experimental autoimmune thyroiditis (EAT), a T-cell-mediated disease. Over a 5-week period, EAT was induced in SJL mice with thyroglobulin (Tg) and **adjuvant**. Concomitantly, mice received intraperitoneal (i.p.) injections of MR1, a **gp39**-specific hamster monoclonal antibody (mAb), at 4-day intervals. Control mice were challenged with Tg but received equivalent doses of hamster immunoglobulin (HIg). It was observed that the control mice developed severe thyroiditis whereas the MR1-treated mice exhibited very low levels of infiltration that were mostly focal in nature. Blockade of gp39 was effective since the Tg-specific IgG titres were low or undetectable in all MR1-treated animals compared with the controls. In addition, upon restimulation with Tg in vitro, lymph node cells (LNC) from Tg-primed, MR1-treated mice proliferated less strongly and secreted significantly lower amounts of interleukin-2 (IL-2) and interferon-gamma (IFN-gamma) than LNC from untreated or HIg-treated controls. These results strongly suggest that in vivo blockade of gp39 suppresses EAT by inhibiting the priming of inflammatory Tg-specific T-helper type 1 cells.

2/7/6 (Item 6 from file: 55)
DIALOG(R)File 55:BIOSIS PREVIEWS(R)

13039447 BIOSIS Number: 99039447

CD40-CD40 ligand interactions are critical in T-B cooperation but not for other anti-viral VD4+ T cell functions

Oxenius A; Campbell K A; Maliszewski C R; Kishimoto T; Kikutani H; Hengartner H; Zinkernagel R M; Bachmann M F
Inst. Exp. Immunol., Schmelzbergstr. 12, CH-8091 Zurich, Switzerland
Journal of Experimental Medicine 183 (5). 1996. 2209-2218.
Full Journal Title: Journal of Experimental Medicine
ISSN: 0022-1007
Language: ENGLISH
Print Number: Biological Abstracts Vol. 102 Iss. 002 Ref. 021620

CD40-CD40 ligand (CD40L) interaction is required for the generation of antibody responses to T-dependent antigens as well as for the development of germinal centers and memory B cells. The role of the CD40-CD40L interaction in the induction of antigen-specific Th cells and in mediating Th cell effector functions other than cognate help for B cells is less when understood. Using CD40- and CD40L-deficient mice together with lymphocytic choriomeningitis virus and vesicular stomatitis virus as viral model antigens, this study corroborates earlier findings that no Ig isotype switching of virus-specific antibodies was measurable upon infection of CD40- or CD40L-deficient mice. In contrast, in vivo induction of virus-specific CD4+ T cells measured by proliferation and cytokine secretion of primed virus-specific Th cells in vitro was not crucially dependent on the CD40-CD40L interaction. In addition, virus-specific Th cells primed in a CD40-deficient environment, adoptively transferred into CD40-competent recipients, were able to mediate Ig isotype switch. Th-mediated effector functions distinct from and in addition to T-B collaboration were analyzed in CD40- and CD40L-deficient and normal mice: (a) local inflammatory reactions upon LCMV infection mediated by LCMV-specific Th cells were not dependent on a functional CD40-**CD40L** interaction, (b) cytokine-mediated protection by CD4+ T cells primed by vesicular stomatitis virus against a challenge infection with recombinant **vaccinia** virus expressing the glycoprotein of vesicular stomatitis

virus was found to be equivalent in **CD40L**-deficient and normal mice. Thus, CD40-CD40L interaction plays a crucial role in T-B interactions for Th-dependent activation of B cells but not, or to a much lesser extent, in T cell activation, antigen-specific Th cell responses in vitro, and for interleukin-mediated Th cell effector functions in vivo.

2/7/7 (Item 1 from file: 72)
DIALOG(R)File 72:EMBASE

9978694 EMBASE No: 96166354
CD40-CD40 ligand interactions are critical in T-B cooperation but not for other anti-viral CD4+ T cell functions
Oxenius A.; Campbell K.A.; Maliszewski C.R.; Kishimoto T.; Kikutani H.; Hengartner H.; Zinkernagel R.M.; Bachmann M.F.
Institute of Experimental Immunology, Schmelzbergstr. 12, CH-8091 Zurich Switzerland
Journal of Experimental Medicine (USA) , 1996, 183/5 (2209-2218)
CODEN: JEMEA ISSN: 0022-1007
LANGUAGES: English SUMMARY LANGUAGES: English
CD40-CD40 ligand (CD40L) interaction is required for the generation of antibody responses to T-dependent antigens as well as for the development of germinal centers and memory B cells. The role of the CD40-CD40L interaction in the induction of antigen-specific Th cells and m mediating Th cell effector functions other than cognate help for B cells is less well understood. Using CD40- and CD40L-deficient mice together with lymphocytic choriomeningitis virus and vesicular stomatitis virus as viral model antigens, this study corroborates earlier findings that no Ig isotype switching of virus-specific antibodies was measurable upon infection of CD40- or CD40L-deficient mice. In contrast, in vivo induction of virus-specific CD40+ T cells measured by proliferation and cytokine secretion of primed virus-specific Th cells in vitro was not crucially dependent on the CD40- CD40L interaction. In addition, virus-specific Th cells primed in a CD40- deficient environment, adoptively transferred into CD40-competent recipients, were able to mediate Ig isotype switch. Th-mediated effector functions distinct from and in addition to T-B collaboration were analyzed in CD40- and CD40L-deficient and normal mice: (a) local inflammatory reactions upon LCMV infection mediated by LCMV-specific Th cells were not dependent on a functional CD40-**CD40L** interaction, (b) cytokine mediated protection by CD4+ T cells primed by vesicular stomatitis virus against a challenge infection with recombinant **vaccinia** virus expressing the glycoprotein of vesicular stomatitis virus was found to be equivalent in **CD40L**-deficient and normal mice. Thus, CD40-CD40L interaction plays a crucial role in T-B interactions for Th-dependent activation of B cells but not, or to a much lesser extent, in T cell activation, antigen-specific Th cell responses in vitro, and for interleukin-mediated Th cell effector functions in vivo.

2/7/8 (Item 1 from file: 154)
DIALOG(R)File 154:MEDLINE(R)

09503173 98230457
IL-12 up-regulates CD40 ligand (CD154) expression on human T cells.
Peng X; Remacle JE; Kasran A; Huylebroeck D; Ceuppens JL
Department of Pathophysiology, Faculty of Medicine, Catholic University of Leuven, Belgium.
J Immunol (UNITED STATES) Feb 1 1998, 160 (3) p1166-72, ISSN 0022-1767 Journal Code: IFB
Languages: ENGLISH
Document type: JOURNAL ARTICLE
IL-12 is a heterodimeric cytokine produced by APC that promotes the development of CD4+ Th1 cells and their IFN-gamma production after TCR/CD3

triggering. We here investigated the capacity of IL-12 to modify the expression on T cells of CD40 ligand (CD40L or CD154), a molecule transiently expressed on activated T cells and known to be of utmost importance for cognate interaction with B cells and for activation of dendritic cells and macrophages. Our data demonstrate that IL-12 up-regulates CD40L expression on anti-CD3-activated human peripheral blood T cells. For optimal induction of CD40L, IL-12 synergizes with IL-2 as well as with other costimulatory interactions, such as B7/CD28. The effect of IL-12 was observed at both the protein and the mRNA level. T cells costimulated by IL-12 provided more efficient help for IL-4-dependent B cell proliferation and for IgG production than when activated in the absence of IL-12. This helper activity was blocked by an mAb against CD40L, indicating that the effect of IL-12 on B cells is mediated indirectly through CD40L. The data thus suggest that the effects of IL-12 on cellular and humoral immune responses are partly mediated through CD40L induction.

2/7/9 (Item 2 from file: 154)
DIALOG(R)File 154:MEDLINE(R)

09479030 98209743
Engagement of CD40 antigen with soluble CD40 ligand up-regulates peptide transporter expression and restores endogenous processing function in Burkitt's lymphoma cells.
Khanna R; Cooper L; Kienzle N; Moss DJ; Burrows SR; Khanna KK
EBV Unit, Queensland Institute of Medical Research, Herston, Australia. rajivK@qimr.edu.au
J Immunol (UNITED STATES) Dec 15 1997, 159 (12) p5782-5, ISSN 0022-1767 Journal Code: IFB
Contract/Grant No.: CA-52250-04, CA, NCI
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Cells from the EBV-associated tumor, Burkitt's lymphoma (BL), are known to be highly inefficient at endogenous processing of class I-restricted CTL epitopes due to a consistent loss of peptide transporters (TAP) and MHC expression. We investigated the potential of CD40 engagement to up-regulate the expression of class I-processing genes and to enhance the immunogenicity of these malignant cells toward EBV-specific CTLs. Here we show that engagement of CD40 Ag with soluble CD40 ligand (CD40L) up-regulates TAP-1 and HLA class I expression on BL cells. More importantly, analysis of the Ag-processing function, using a recombinant **vaccinia** virus to transiently express the EBV nuclear Ags, revealed that **CD40L** -treated BL cells consistently processed endogenously synthesized viral Ags for recognition by HLA class I-restricted, virus-specific CTLs. These findings raise the possibility that CD40L treatment of tumor cells might be exploited in immunotherapeutic protocols.

2/7/10 (Item 3 from file: 154)
DIALOG(R)File 154:MEDLINE(R)

09479029 98209742
Immunostimulatory effects of a plasmid expressing CD40 ligand (CD154) on gene immunization.
Mendoza RB; Cantwell MJ; Kipps TJ
Human Gene Therapy Program, University of California-San Diego, La Jolla 92093-0663, USA.
J Immunol (UNITED STATES) Dec 15 1997, 159 (12) p5777-81, ISSN 0022-1767 Journal Code: IFB
Contract/Grant No.: CA66000, CA, NCI
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Interaction of CD40 with its ligand (CD154) can induce CD40-bearing APCs

to express immune stimulatory accessory molecules that facilitate immune recognition. We evaluated whether a plasmid vector encoding CD154 (pCD40L) could influence the immune response to a transgene protein encoded by coinjected plasmid DNA. We found that coinjection of pCD40L in BALB/c mice enhanced the Ab response to beta-galactosidase induced by i.m. or intradermal injection of placZ, a plasmid DNA vector encoding beta-galactosidase. Furthermore, i.m. or intradermal coinjection of pCD40L with placZ enhanced the generation of CTL specific for P815 cells transfected with placZ. This study indicates that pCD40L can serve as a genetic adjuvant capable of augmenting humoral and cellular immune responses to Ags encoded by plasmid DNA expression vectors.

2/7/11 (Item 4 from file: 154)
DIALOG(R)File 154:MEDLINE(R)

09415420 98129329
CD40 ligand/CD40 stimulation regulates the production of IFN-gamma from human peripheral blood mononuclear cells in an IL-12- and/or CD28-dependent manner.
McDyer JF; Goletz TJ; Thomas E; June CH; Seder RA
Lymphokine Regulation Unit, Laboratory of Clinical Investigation, National Institute of Allergy and Infectious Diseases, Bethesda, MD 20892, USA.
J Immunol (UNITED STATES) Feb 15 1998, 160 (4) p1701-7, ISSN 0022-1767 Journal Code: IFB
Languages: ENGLISH
Document type: JOURNAL ARTICLE
CD40 ligand (CD40L)/CD40 costimulation is an important regulator of Th1 responses. Two mechanisms by which CD40L/CD40 stimulation may enhance IFN-gamma are via direct induction of IL-12 and augmentation of the expression of costimulatory molecules such as B7 from APCs. We examined the ability of CD40L/CD40 stimulation to regulate the production of IFN-gamma through IL-12 and/or CD28 costimulation from human PBMCs stimulated with T cell-specific stimuli. The roles of exogenous and endogenous CD40L/CD40 stimulation were evaluated using a trimeric soluble CD40L agonist (CD40T) and an anti-CD40L Ab, respectively. The presence of CD40T in cultures increased the production of IL-12 and IFN-gamma from PBMCs stimulated with varying amounts of PHA. The mechanism, however, by which CD40T enhanced IFN-gamma varied according to the level of T cell activation. Under maximal stimulatory conditions (PHA, 1/100), an IL-12-dependent pathway was dominant. At relatively low levels of T cell stimulation (PHA, 1/500 and 1/1000), however, an additional IL-12-independent CD28-dependent pathway was elucidated. We further studied the role of exogenous CD28 stimulation in regulating the production of IFN-gamma. The enhancement of IFN-gamma production induced by direct CD28 stimulation was primarily dependent on endogenous IL-12 or CD40L/CD40 stimulation. Together, these data suggest that the production of IFN-gamma involves a complex interaction between two interdependent, yet distinct, costimulatory pathways and provide evidence that CD40T may be an effective adjuvant for the enhancement of responses.

2/7/12 (Item 5 from file: 154)
DIALOG(R)File 154:MEDLINE(R)

09090602 97349051
Protective immunity induced by tumor vaccines requires interaction between CD40 and its ligand, CD154.
Mackey MF; Gunn JR; Ting PP; Kikutani H; Dranoff G; Noelle RJ; Barth RJ Jr
Department of Microbiology, Dartmouth Medical School and Norris Cotton Cancer Center, Lebanon, New Hampshire 03756, USA.
Cancer Res (UNITED STATES) Jul 1 1997, 57 (13) p2569-74, ISSN

0008-5472 Journal Code: CNF
Contract/Grant No.: AI26296, AI, NIAID; AI37075, AI, NIAID
Languages: ENGLISH
Document type: JOURNAL ARTICLE

Interactions between CD40 and its ligand, CD154 (CD40L, gp39), have been shown to play a central role in the regulation of humoral immunity. Recent evidence suggests that this ligand-receptor pair also plays an important role in the induction of cell-mediated immune responses, including those directed against viral pathogens, intracellular parasites, and alloantigens. The contribution of this ligand-receptor pair to the development of protective immunity against syngeneic tumors was evaluated by blocking the in vivo function of CD154 or by studying tumor resistance in mice genetically deficient in CD40 expression (CD40-/-). In the former case, anti-CD154 monoclonal antibody treatment inhibited the generation of protective immune responses after the administration of three potent tumor vaccines: irradiated MCA 105, MCA 105 admixed with Corynebacterium parvum adjuvant, and irradiated B16 melanoma cells transduced with the gene for granulocyte macrophage colony-stimulating factor. Confirmation of the role of CD40/CD154 interactions in tumor immunity was provided by the overt tumor susceptibility in CD40-deficient mice as compared to that in CD40+/+ mice. In this case, wild-type but not CD40-deficient mice could be readily protected against live TS/A tumor challenge by preimmunization with TS/A admixed with C. parvum. These findings suggest a critical role for CD40/CD154 interactions in the induction of cellular immunity by tumor vaccines and may have important implications for future approaches to cell-based cancer therapies.

2/7/13 (Item 6 from file: 154)
DIALOG(R)File 154:MEDLINE(R)

08716999 96049696
Somatic mutation of human immunoglobulin V genes: bias, rate, and regulation.
Insel RA; Varade WS; Chu YW; Marin E; Fuleihan R; Geha RS
Department of Pediatrics, University of Rochester School of Medicine and Dentistry, New York 14642, USA.
Ann N Y Acad Sci (UNITED STATES) Sep 29 1995, 764 p158-69, ISSN 0077-8923 Journal Code: 5NM
Languages: ENGLISH
Document type: JOURNAL ARTICLE; REVIEW; REVIEW, TUTORIAL
(46 Refs.)

2/7/14 (Item 7 from file: 154)
DIALOG(R)File 154:MEDLINE(R)

08415858 95332711
Cellular interaction in germinal centers. Roles of CD40 ligand and B7-2 in established germinal centers.
Han S; Hathcock K; Zheng B; Kepler TB; Hodes R; Kelsoe G
Department of Microbiology and Immunology, University of Maryland School of Medicine, Baltimore 21201, USA.
J Immunol (UNITED STATES) Jul 15 1995, 155 (2) p556-67, ISSN 0022-1767 Journal Code: IFB
Contract/Grant No.: AI-24335, AI, NIAID; AG-10207, AG, NIA
Languages: ENGLISH
Document type: JOURNAL ARTICLE

Costimulatory interactions between T and B lymphocytes are crucial for T cell activation and B cell proliferation and differentiation. We have compared the roles of CD40L and B7-2 in the initiation and maturation of humoral immunity by administering anti-CD40 ligand (L) or anti-B7-2 Ab during the early (days -1 to 3) or late (days 6-10) phases of primary

responses to thymus-dependent (Td) and -independent (Ti) Ags. Germinal center (GC) formation in response to a Td Ag was inhibited completely by the early administration of anti-CD40L or anti-B7-2 Abs. Later in the response, established GCs remained sensitive to anti-CD40L but were resistant to treatment with anti-B7-2. However, Ig hypermutation was reduced dramatically in GCs of anti-B7-2-treated mice and humoral memory was impaired. Early administration of anti-CD40L reduced serum Ab levels to approximately 10% of controls, whereas early treatment with anti-B7-2 reduced Ab production by only 50%. Later treatments with either Ab had no effect on Ab production. Response to a type II Ti Ag was more resistant than Td responses to interruption of costimulatory interactions. Our findings suggest that the costimulatory roles of CD40:CD40L and B7-2:CD28/CTLA-4 differ in the GC; administration of anti-CD40L abrogates an established GC reaction, whereas Ab to B7-2 suppresses Ig hypermutation and entry into the B cell memory compartment. Once B cells have entered the differentiation pathway to Ab production, neither CD40L nor B7-2 is necessary for their continued differentiation and persistence.

2/7/15 (Item 1 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

128139750 CA: 128(12)139750z PATENT
Method of activating dendritic cells
INVENTOR(AUTHOR): Maraskovsky, Eugene; Mckenna, Hilary R.
LOCATION: USA
ASSIGNEE: Immunex Corp.
PATENT: PCT International ; WO 9801538 A1 DATE: 19980115
APPLICATION: WO 97US11956 (19970709) *US 677762 (19960710) *US 763995 (19961212)
PAGES: 35 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: C12N-005/00A; C12N-015/63B; C12N-015/09B; A61K-048/00B DESIGNATED COUNTRIES: AU; CA; IL; JP; KR; MX; NO; NZ DESIGNATED REGIONAL: AT; BE; CH; DE; DK; ES; FI; FR; GB ; GR; IE; IT; LU; MC; NL; PT; SE
SECTION:
CA215002 Immunochemistry
IDENTIFIERS: dendritic cell antigen presentation vaccine adjuvant
DESCRIPTORS:
Bacteria(Eubacteria)... Genes(animal)... Virus...
antigen; CD40-binding protein-activated dendritic cells for inducing antigen-specific T cell and as vaccine adjuvant
T cell(lymphocyte)...
antigen-specific; CD40-binding protein-activated dendritic cells for inducing antigen-specific T cell and as vaccine adjuvant
Adjuvants(immunological)... Alloantigens... Antigens... CD40 ligand... CD40(antigen)... Cytokines... Dendritic cell... Hematopoietic precursor cell... Hematopoietic stem cell... Interferon .gamma.... Interleukin 10... Interleukin 11... Interleukin 12... Interleukin 13... Interleukin 14... Interleukin 15... Interleukin 1... Interleukin 2... Interleukin 3... Interleukin 4... Interleukin 5... Interleukin 6... Interleukin 7... Interleukin 8... Interleukin 9... Leukemia inhibitory factor... Protein sequences... Stem cell factor... Transforming growth factors .beta.... Tumor necrosis factor .alpha.... Tumor necrosis factors... Tumor-associated antigen... Vaccines...
CD40-binding protein-activated dendritic cells for inducing antigen-specific T cell and as vaccine adjuvant
Proteins(specific proteins and subclasses)...
CD40-binding; CD40-binding protein-activated dendritic cells for inducing antigen-specific T cell and as vaccine adjuvant
Hematopoietic growth factors...
flt-3 ligand; CD40-binding protein-activated dendritic cells for inducing antigen-specific T cell and as vaccine adjuvant
Antigens...
sol. CD83; CD40-binding protein-activated dendritic cells for inducing

antigen-specific T cell and as vaccine adjuvant
CAS REGISTRY NUMBERS:
148814-08-8 186361-64-8 186361-65-9 186361-66-0 186361-67-1
186361-68-2 186361-69-3 amino acid sequence; CD40-binding protein-activated dendritic cells for inducing antigen-specific T cell and as vaccine adjuvant
11096-26-7 62031-54-3 81627-83-0 83869-56-1 143011-72-7 CD40-binding protein-activated dendritic cells for inducing antigen-specific T cell and as vaccine adjuvant

2/7/16 (Item 2 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

128100826 CA: 128(9)100826d JOURNAL
Cutting edge: immunostimulatory effects of a plasmid expressing CD40 ligand (CD154) on gene immunization
AUTHOR(S): Mendoza, Robert B.; Cantwell, Mark J.; Kipps, Thomas J.
LOCATION: Human Gene Therapy Program, University California-San Diego, La Jolla, CA, 92093, USA
JOURNAL: J. Immunol. DATE: 1997 VOLUME: 159 NUMBER: 12 PAGES: 5777-5781 CODEN: JOIMA3 ISSN: 0022-1767 LANGUAGE: English PUBLISHER: American Association of Immunologists
SECTION:
CA215002 Immunochemistry
IDENTIFIERS: immunostimulant plasmid CD40 ligand gene immunization
DESCRIPTORS:
Vaccines...
DNA; immunostimulatory effects of plasmid expressing CD40 ligand on gene immunization
Plasmids...
expressing CD40 ligand; immunostimulatory effects of plasmid expressing CD40 ligand on gene immunization
Adjuvants(immunological)... CD40 ligand... Cytotoxic T cell... Gene therapy ... Genetic vectors...
immunostimulatory effects of plasmid expressing CD40 ligand on gene immunization
DNA...
vaccine; immunostimulatory effects of plasmid expressing CD40 ligand on gene immunization

2/7/17 (Item 3 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

127233546 CA: 127(17)233546p PATENT
Methods and compositions for modulating an immune response
INVENTOR(AUTHOR): Armitage, Richard J.; Fanslow, William C.; Escobar, Carlos; Zappone, Jodee
LOCATION: USA
ASSIGNEE: Immunex Corporation
PATENT: PCT International ; WO 9729781 A1 DATE: 19970821
APPLICATION: WO 97US2350 (19970213) *US 601954 (19960215) *US 673753 (19960627) *US 720284 (19960926)
PAGES: 35 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: A61K-048/00A; C07K-005/00B; C07H-021/04B DESIGNATED COUNTRIES: AU; CA; NZ
DESIGNATED REGIONAL: AT; BE; CH; DE; DK; ES; FI; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE
SECTION:
CA215002 Immunochemistry
CA203XXX Biochemical Genetics
IDENTIFIERS: CD83 DNA antigen cytokine vaccine immunostimulation
DESCRIPTORS:

Immunoglobulins...
CD83 superfamily; compns. contg. CD83 DNA and antigen and cytokine for modulating an immune response and as vaccine
CD antigens...
CD83; compns. contg. CD83 DNA and antigen and cytokine for modulating an immune response and as vaccine
Antigens... cDNA sequences... CD40 ligand... Cytokines... Fusion proteins(chimeric proteins)... Genes(animal)... Humoral immunity... Immunostimulants... Interferon .gamma.... Interleukin 10... Interleukin 12 ... Interleukin 15... Interleukin 1... Interleukin 2... Interleukin 3... Interleukin 4... Interleukin 5... Interleukin 6... Interleukin 7... Protein sequences... Raji cell... Transforming growth factors .beta.... Tumor necrosis factors... Vaccines...
compns. contg. CD83 DNA and antigen and cytokine for modulating an immune response and as vaccine
Hematopoietic growth factors...
flt-3 ligand; compns. contg. CD83 DNA and antigen and cytokine for modulating an immune response and as vaccine
Injections(drug delivery systems)...
intradermal; compns. contg. CD83 DNA and antigen and cytokine for modulating an immune response and as vaccine
DNA...
vaccine; compns. contg. CD83 DNA and antigen and cytokine for modulating an immune response and as vaccine
CAS REGISTRY NUMBERS:
147277-18-7 195263-86-6 amino acid sequence; compns. contg. CD83 DNA and antigen and cytokine for modulating an immune response and as vaccine
195263-75-3 nucleotide sequence; compns. contg. CD83 DNA and antigen and cytokine for modulating an immune response and as vaccine

2/7/18 (Item 4 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

125240241 CA: 125(19)240241x PATENT
Viral preparations, vectors, immunogens, and vaccines
INVENTOR(AUTHOR): Inglis, Stephen Charles; Boursnell, Michael Edward Griffith
LOCATION: UK,
ASSIGNEE: Cantab Pharmaceuticals Research Limited
PATENT: PCT International ; WO 9626267 A1 DATE: 960829
APPLICATION: WO 96GB385 (960221) *GB 953395 (950221) *GB 9515557 (950728) *GB 963322 (960216)
PAGES: 47 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: C12N-007/00A; C12N-015/86B; A61K-039/42B; C12N-005/00B; A61K-048/00B
DESIGNATED COUNTRIES: AU; CA; JP; US DESIGNATED REGIONAL: AT; BE; CH; DE ; DK; ES; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE
SECTION:
CA203002 Biochemical Genetics
CA215XXX Immunochemistry
CA263XXX Pharmaceuticals
IDENTIFIERS: virus mutant immunomodulatory protein vaccine, herpes simplex virus mutant CSF vaccine, granulocyte macrophage CSF vaccine mutant virus
DESCRIPTORS:
Antigens,CD40... Complement... Glycoproteins,specific or class, CD40-L (antigen CD40 ligand)... Immunomodulators... Immunostimulants... Lymphokines and Cytokines... Lymphokines and Cytokines,chemokines... Lymphokines and Cytokines,interleukin 12... Lymphokines and Cytokines,interleukin 2... Neoplasm inhibitors... Receptors... Therapeutics,geno-... Vaccines... Virus,animal... Virus,animal, herpes... Virus,animal, herpes simplex 1... Virus,animal, herpes simplex 2...
construction of mutant viruses deleting an essential gene and contg. an immunomodulatory protein gene, and their use as immunogens and vaccines

Glycoproteins,processes... Glycoproteins,specific or class, gB...
Glycoproteins,specific or class, gD... Glycoproteins,specific or class, gH
... Proteins,specific or class, gene UL1...
deletion of gene for; construction of mutant viruses deleting an essential gene and contg. an immunomodulatory protein gene, and their use as immunogens and vaccines
Lymphocyte,T-cell, cytotoxic...
enhanced prodn. of virus-specific; construction of mutant viruses deleting an essential gene and contg. an immunomodulatory protein gene, and their use as immunogens and vaccines
CAS REGISTRY NUMBERS:
83869-56-1P construction of mutant viruses deleting an essential gene and contg. an immunomodulatory protein gene, and their use as immunogens and vaccines

2/7/19 (Item 5 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

123132852 CA: 123(11)132852x PATENT
Treatment of viral disease with antigen-binding protein CD40-L
INVENTOR(AUTHOR): Ruby, Janet Caroline; Ramshaw, Ian Allister
LOCATION: Australia
ASSIGNEE: Australian National University
PATENT: PCT International ; WO 9514487 A1 DATE: 950601
APPLICATION: WO 94AU722 (941123) *AU 932587 (931124)
PAGES: 28 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: A61K-038/17A; C12N-007/01; C12N-015/12 DESIGNATED COUNTRIES: AU; JP; US
DESIGNATED REGIONAL: AT; BE; CH; DE; DK; ES; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE
SECTION:
CA201005 Pharmacology
IDENTIFIERS: CD40L virus infection treatment, interleukin 4 CD40L IgE virus infection
DESCRIPTORS:
Virus,animal, pox... Virus,animal, vaccinia...
expression vector for CD40L gene; treatment of viral disease with antigen-binding protein CD40-L
Gene,animal...
for CD40-L, viral expression vectors carrying; treatment of viral disease with antigen-binding protein CD40-L
Lymphokines and Cytokines,interleukin 4...
IgE biosynthesis stimulation in immunodeficient mice by CD40L and; treatment of viral disease with antigen-binding protein CD40-L
Therapeutics,geno-...
of viral disease with CD40L expression vectors; treatment of viral disease with antigen-binding protein CD40-L
Immunoglobulins,E...
stimulation of synthesis of, interleukin 4 and CD40L in; treatment of viral disease with antigen-binding protein CD40-L
Virus,animal, cytomegalo-... Virus,animal, hepatitis... Virus,animal, herpes simplex 1... Virus,animal, herpes simplex 2... Virus,animal, human immunodeficiency...
treatment of infection by; treatment of viral disease with antigen-binding protein CD40-L
Glycoproteins,specific or class, CD40-L (antigen CD40 ligand)...
treatment of viral disease with antigen-binding protein CD40-L
Virus,animal, vaccinia...
VV-CD40L (recombinant), CD40L gene on; treatment of viral disease with antigen-binding protein CD40-L
Virus,animal, vaccinia...
VV-IL4-CD40L (recombinant), interleukin 4 and CD40L genes on; treatment of viral disease with antigen-binding protein CD40-L

2/7/20 (Item 6 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

122312907 CA: 122(25)312907g JOURNAL
CD40 ligand has potent antiviral activity
AUTHOR(S): Ruby, Janet; Bluethmann, Horst; Aguet, Michel; Ramshaw, Ian A.
LOCATION: Division Cell Biology, John Curtin School Medical Research, 2601, Canberra, Austria
JOURNAL: Nat. Med. (N. Y.) DATE: 1995 VOLUME: 1 NUMBER: 5 PAGES: 437-41 CODEN: NAMEFI ISSN: 1078-8956 LANGUAGE: English
SECTION:
CA215010 Immunochemistry
IDENTIFIERS: CD40 ligand antiviral T lymphocyte
DESCRIPTORS:
Glycoproteins,specific or class, CD40-L (antigen CD40 ligand)...
Lymphocyte,T-cell... Microbicidal and microbiostatic action,virucidal...
Virucides and Virustats... Virus,animal, vaccinia...
CD40 ligand has potent antiviral activity

2/7/21 (Item 7 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

119093523 CA: 119(9)93523m PATENT
Murine and human cytokine (CD40-L) which binds to CD40, and soluble CD40 and CD40 fusion molecules
INVENTOR(AUTHOR): Armitage, Richard J.; Fanslow, William C.; Spriggs, Melanie K.
LOCATION: USA
ASSIGNEE: Immunex Corp.
PATENT: PCT International ; WO 9308207 A1 DATE: 930429
APPLICATION: WO 92US8990 (921023) *US 783707 (911025) *US 805723 (911205)
PAGES: 79 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: C07H-021/00A; A61K-035/14B; C07K-003/00B; C07K-007/00B; C07K-013/00B; C12P-021/02B; C12P-021/06B; C12N-015/00B DESIGNATED COUNTRIES: AU; CA; FI; JP; KR; NO
DESIGNATED REGIONAL: AT; BE; CH; DE; DK; ES; FR; GB; GR; IE; IT; LU; MC; NL; SE
SECTION:
CA215005 Immunochemistry
CA201XXX Pharmacology
IDENTIFIERS: CD40 ligand cytokine, DNA cloning CD40 ligand cytokine, Fc CD40 fusion protein prodn, sequence CD40 ligand DNA
DESCRIPTORS:
Translation,genetic...
(antisense) oligonucleotides for inhibition of, of CD40 ligand cytokine
Transcription,genetic...
(antisense) oligonucleotides for inhibition of, of CD40 ligand cytokine nucleic acid
Genetic vectors...
cDNA for CD40 ligand cytokine on
Allergy inhibitors... Inflammation inhibitors,antirheumatics...
CD40 antagonist polypeptides for
Membrane,biological...
CD40 ligand bound to, as adjuvant for vaccine response augmentation and for stimulation of monoclonal antibody secretion by hybridoma
Lymphocyte,B-cell...
CD40 ligand cytokine effect on proliferation of and antibody prodn. by
Animal cell line,EL4...
CD40 ligand expression in
Immunostimulants,adjuvants...
CD40 ligand polypeptides as
Antigens,CD40...

cytokine ligand binding to
Deoxyribonucleic acid sequences...
for CD40 ligand cytokine, of human and mouse
Nucleotides,oligo-,polymers...
for transcription/translation inhibition of CD40 ligand cytokine
Immunoglobulins,A... Immunoglobulins,E... Immunoglobulins,G1...
Immunoglobulins,G2b... Immunoglobulins,G3... Immunoglobulins,M...
formation of, CD40 ligand cytokine effect on
Molecular cloning...
of cDNA for CD40 ligand cytokine
Proteins,specific or class, fusion products...
of CD40 and IgG1 Fc sequences, recombinant prodn. and therapeutic use of
Protein sequences...
of CD40 ligand cytokine, of human and mouse
Immunoglobulins,E, Fc.epsilon.RII receptors... Receptors,Fc.epsilon.RII (IgE fragment Fc receptor II)...
sol., interleukin-4-induced shedding of, from B-cells, inhibition of, by sol. CD40 mol. and CD40/Fc fusion protein
Antibodies... Antibodies,monoclonal...
to CD40 ligand cytokine
Lupus erythematosus... Transplant and Transplantation,graft-vs.-host reaction...
treatment of, CD40 antagonist polypeptides for
CAS REGISTRY NUMBERS:
149119-84-6 149119-85-7 149119-86-8 149119-89-1 149119-93-7 amino acid sequence of
149119-87-9 149119-92-6 nucleotide sequence of
149119-88-0 nucleotide sequence of and cloning of
149119-90-4 149119-91-5 nucleotide sequence of, CD40/Fc fusion protein construction in relation to

2/7/22 (Item 1 from file: 351)
DIALOG(R)File 351:DERWENT WPI

010305520 **Image available**
WPI Acc No: 95-206780/199527
Treatment and prevention of viral infections with as e.g. HIV, herpes simplex virus or cytomegalovirus - using **CD40L** polypeptide or **vaccine**
Patent Assignee: UNIV AUSTRALIAN NAT (AUSU)
Inventor: RAMSHAW I A; RUBY J C
Number of Countries: 019 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Main IPC	Week
WO 9514487	A1	19950601	WO 94AU722	A	19941123	A61K-038/17	199527 B
AU 9510590	A	19950613	AU 9510590	A	19941123	A61K-038/17	199539

Priority Applications (No Type Date): AU 932587 A 19931124
Cited Patents: 40Jnl.Ref; AU 9331226; AU 9332988; AU 9344950; AU 9346120; AU 9350984
Patent Details:

Patent	Kind	Lan	Pg	Filing Notes	Application	Patent
WO 9514487	A1	E	28			

Designated States (National): AU JP US
Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE

AU 9510590	A	Based on		WO 9514487

Abstract (Basic): WO 9514487 A
Prophylactic or therapeutic treatment of a virus infection in a human or animal comprises admin. of a **CD40L** polypeptide or a **vaccine** vector encoding a **CD40L** polypeptide. Also claimed

is the **vaccine** encoding the **CD40L** polypeptide.

USE - The method is used for treating or preventing infections with herpes simplex virus type 1 or 2, HIV, cytomegalovirus or hepatitis virus. The antiviral properties of CD40L or its usefulness for the treatment of viral infections has not previously been disclosed or suggested.

Dwg.4/4

Derwent Class: B04; C03; D16

International Patent Class (Main): A61K-038/17

International Patent Class (Additional): C12N-007/01; C12N-015/12

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*                                                                    *
*      APS is unavailable Thanksgiving Day, Christmas Day,           *
*      and New Year's Day.                                           *
*                                                                    *
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FILE 'USPAT' ENTERED AT 12:31:11 ON 21 MAY 1998

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*              W E L C O M E   T O   T H E                           *
*        U. S.   P A T E N T   T E X T   F I L E                     *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

=> e heath/in

E#      FILE            FREQUENCY  TERM
--      ----            ---------  ----
E1      USPAT                1     HEATER, WILLIAM R/IN
E2      USPAT                1     HEATFIELD, BARRY M/IN
E3      USPAT                0 --> HEATH/IN
E4      USPAT                1     HEATH BROWN, BASIL/IN
E5      USPAT                1     HEATH COLEMAN, ROY A/IN
E6      USPAT                1     HEATH COLEMAN, ROY ALBERT/IN
E7      USPAT                1     HEATH, AL/IN
E8      USPAT                1     HEATH, ALAN L/IN
E9      USPAT                3     HEATH, ALASTAIR E F/IN
E10     USPAT                5     HEATH, ALLAN B/IN
E11     USPAT                1     HEATH, ALLAN BURKETT/IN
E12     USPAT                6     HEATH, ALLEN W/IN

=> e

E13     USPAT                1     HEATH, ANDREW W/IN
E14     USPAT                1     HEATH, ARCHIE D/IN
E15     USPAT                1     HEATH, ARTHUR R/IN
E16     USPAT                1     HEATH, B WAYNE/IN
E17     USPAT                1     HEATH, BARBARA A/IN
E18     USPAT                1     HEATH, BILLY J/IN
E19     USPAT                1     HEATH, BOYD A/IN
E20     USPAT                1     HEATH, BRADLEY/IN
E21     USPAT                1     HEATH, BRADLEY J/IN
E22     USPAT                1     HEATH, BRENDA/IN
E23     USPAT                1     HEATH, BRUCE A/IN
E24     USPAT                1     HEATH, BUDDY/IN

=> s e13

L1             1 "HEATH, ANDREW W"/IN

=> d l1


1.  5,356,622, Oct. 18, 1994, Flea midgut-supernatant vaccines; Andrew
W. Heath, et al., 424/265.1; 514/830; 530/427, 858 [IMAGE AVAILABLE]

=> s (cd40L or cd40(w)ligand or gp39 or 5c8)(P)(vaccin? or adjuvant?)

            12 CD40L
            88 CD40
         18121 LIGAND
```

```
            10 GP39
            38 5C8
          8019 VACCIN?
         32539 ADJUVANT?
L2           5 (CD40L OR CD40(W)LIGAND OR GP39 OR 5C8)(P)(VACCIN? OR ADJUV
ANT
               ?)

=> d l21 -5

'L21' NOT FOUND

=> d l2 1-5
```

1. 5,747,037, May 5, 1998, Anti-GP39 antibodies; Randolph J. Noelle, et al., 424/154.1, 130.1, 141.1, 143.1, 144.1, 153.1, 173.1; 435/70.21, 172.2, 326, 332, 334, 343, 343.1, 343.2, 346; 530/387.1, 388.1, 388.2, 388.22, 388.7, 388.73, 388.75 [IMAGE AVAILABLE]

2. 5,747,024, May 5, 1998, Vaccine adjuvant comprising interleukin-15; Kenneth H. Grabstein, et al., 424/85.2, 278.1; 514/2, 8, 12, 885; 530/351 [IMAGE AVAILABLE]

3. 5,683,693, Nov. 4, 1997, Method for inducing T cell unresponsiveness to a tissue or organ graft with anti-CD40 ligand antibody or soluble CD40; Randolph J. Noelle, et al., 424/144.1, 130.1, 133.1, 134.1, 141.1, 143.1, 154.1, 173.1; 514/2, 8, 885 [IMAGE AVAILABLE]

4. 5,540,926, Jul. 30, 1996, Soluble and its use in B cell stimulation; Alejandro Aruffo, et al., 424/153.1, 173.1, 192.1; 435/69.1, 69.3, 69.7, 252.3, 320.1; 514/12; 530/350, 387.1 [IMAGE AVAILABLE]

5. 4,683,136, Jul. 28, 1987, Proteinaceous antigens with conformation-independent and conformation-dependent determinants; David Milich, et al., 424/189.1, 196.11, 227.1; 435/5, 184, 948, 961, 975; 436/86, 518, 543, 820; 530/402, 403, 826; 930/223 [IMAGE AVAILABLE]

=> d l2 1-5 date

L2: 1 of 5

TITLE:	Anti-GP39 antibodies		
US PAT NO:	5,747,037 [IMAGE AVAILABLE]	DATE ISSUED:	May 5, 1998
APPL-NO:	08/475,847	DATE FILED:	Jun. 7, 1995
REL-US-DATA:	Continuation-in-part of Ser. No. 232,929, Apr. 25, 1994, abandoned, which is a continuation-in-part of Ser. No. 116,255, Sep. 2, 1993, abandoned.		

L2: 2 of 5

TITLE:	Vaccine adjuvant comprising interleukin-15		
US PAT NO:	5,747,024 [IMAGE AVAILABLE]	DATE ISSUED:	May 5, 1998
APPL-NO:	08/504,042	DATE FILED:	Jul. 19, 1995
REL-US-DATA:	Continuation-in-part of Ser. No. 393,305, Feb. 22, 1995, Pat. No. 5,574,138, which is a continuation-in-part of Ser. No. 233,606, Apr. 22, 1994, abandoned, which is a continuation-in-part of Ser. No. 31,399, Mar. 8, 1993, Pat. No. 5,552,303.		

L2: 3 of 5

TITLE:	Method for inducing T cell unresponsiveness to a tissue or organ graft with anti-CD40 ligand antibody or soluble CD40

US PAT NO: 5,683,693 DATE ISSUED: Nov. 4, 1997
[IMAGE AVAILABLE]
APPL-NO: 08/234,987 DATE FILED: Apr. 25, 1994

L2: 4 of 5

TITLE: Soluble and its use in B cell stimulation
US PAT NO: 5,540,926 DATE ISSUED: Jul. 30, 1996
[IMAGE AVAILABLE]
APPL-NO: 07/940,605 DATE FILED: Sep. 4, 1992

L2: 5 of 5

TITLE: Proteinaceous antigens with conformation-independent and conformation-dependent determinants
US PAT NO: 4,683,136 DATE ISSUED: Jul. 28, 1987
[IMAGE AVAILABLE]
APPL-NO: 06/708,746 DATE FILED: Mar. 6, 1985

=> d l2 1-5 kwic

US PAT NO: 5,747,037 [IMAGE AVAILABLE] L2: 1 of 5

DETDESC:

DETD(9)

A mammal, (e.g., a mouse, hamster, or rabbit) can be immunized with an immunogenic form of **gp39** protein or protein fragment (e.g., peptide fragment) which elicits an antibody response in the mammal. A cell which expresses **gp39** on its surface can also be used as the immunogen. Alternative immunogens include purified **gp39** protein or protein fragments. **gp39** can be purified from a **gp39**-expressing cell by standard purification techniques; **gp39** cDNA (Armitage et al., Nature, 357:80-82 (1992); Lederman et al., J. Exp. Med., 175:1091-1101 (1992); Hollenbaugh et al., EMBO J., 11:4313-4319 (1992)) can be expressed in a host cell, e.g., bacteria or a mammalian cell line, and **gp39** protein purified from the cell culture by standard techniques. **gp39** peptides can be synthesized based upon the amino acid sequence of **gp39** (disclosed in Armitage et al., Nature, 357:80-82 (1992); Lederman et al., J. Exp. Med., 175:1091-1101 (1992); Hollenbaugh et al., EMBO. . . carriers or other techniques well known in the art. For example, the protein can be administered in the presence of **adjuvant**. The progress of immunization can be monitored by detection of antibody titers in plasma or serum. Standard ELISA or other. . .

DETDESC:

DETD(42)

Mice . . . with KLH-pulsed splenic B lymphocytes for 5 days. During the primary immunization animals were either untreated or treated with an anti-**gp39** antibody MR1. Five days after the initial immunization, mice were given a local (food pad) challenge with KLH in complete Freund's **adjuvant** (CFA). Mice were sacrificed 5 days later, the draining lymph nodes removed and the T cell proliferative response to KLH. . .

DETDESC:

DETD(104)

For induction of antigen-specific T cell tolerance in a human subject, it is preferable to administer an antibody directed against human **gp39**. The following methodology was used to produce mouse anti-human **gp39** monoclonal antibodies. Balb/c mice were immunized with a soluble

gp39 fusion protein, **gp39**-CD8, in Complete Freund's **Adjuvant** (CFA). Mice were subsequently challenged 6 weeks later with soluble **gp39**-CD8 in Incomplete Freund's **Adjuvant** (IFA). Soluble **gp39**-CD8 was given in soluble form 4 weeks after secondary immunization. Mice were then boosted with activated human peripheral blood lymphocytes 2 weeks later, followed by a final boost with soluble **gp39**-CD8 after an additional 2 weeks. Splenocytes were fused with the NS-1 fusion partner on day 4 after final immunization as. . .

US PAT NO: 5,747,024 [IMAGE AVAILABLE] L2: 2 of 5

SUMMARY:

BSUM(8)

The invention is directed to a composition that is capable of augmenting the immunogenicity of a **vaccine**. The composition, or **adjuvant**, is administered to a mammal in need thereof in sequential or concurrent combination with the **vaccine** antigen. In particular, the **adjuvant** is a cytokine known as interleukin-15 ("IL-15"). IL-15 is a recently discovered cytokine, and is a potent T cell growth. . . and B cells can augment the protective immunity for a particular antigen. These properties of IL-15 make it a suitable **adjuvant** for a variety of **vaccines** wherein augmentation of the immune response to the antigen is desired. Administration of IL-15 in concurrent or sequential combination with a **vaccine** will prompt an enhanced immune response against the **vaccine**. Further included in the invention are compositions that comprise such an immunogenicity-augmenting amount of IL15 in combination with at least one other **vaccine adjuvant**, such as, for example, IL-2, IL-10, GM-CSF, G-CSF and **CD40 ligand**. Methods of **vaccination** that provide for the administration of an immunogenicity-augmenting amount of IL-15 and an immunogenicity-augmenting amount of another **vaccine adjuvant** are also provided by the invention.

DETDESC:

DETD(11)

IL-15 also can be administered in combination with at least one other **vaccine adjuvant**. Many **vaccine adjuvants** exist and would likely be suitable for use in combination with IL-15, for example, cytokines are particularly preferred **vaccine adjuvants**. More preferred **adjuvants** include granulocyte-macrophage colony stimulating factor (GM-CSF), granulocyte colony stimulating factor (G-CSF), IL-2, IL-4, IL-10 and **CD40-ligand**. Preferred **vaccine adjuvants** that can be administered with IL-15 and the **vaccine** are **CD40-ligand** and GM-CSF. Most preferred is GM-CSF. The additional **adjuvant** also can be administered in sequential or concurrent combination with IL-15 or the **vaccine**.

CLAIMS:

CLMS(4)

4. A method according to claim 3, wherein the additional **vaccine adjuvant** is selected from the group consisting of **CD40-ligand**, GM-CSF, G-CSF, IL-2, IL-4 and IL-10.

CLAIMS:

CLMS(9)

9. A composition according to claim 8, wherein the additional **vaccine adjuvant** is selected from the group consisting of

CD40-ligand, GM-CSF, G-CSF, IL-2 and IL-10.

US PAT NO: 5,683,693 [IMAGE AVAILABLE] L2: 3 of 5

DETDESC:

DETD(8)

A mammal, (e.g., a mouse, hamster, or rabbit) can be immunized with an immunogenic form of **gp39** protein or protein fragment (e.g., peptide fragment) which elicits an antibody response in the mammal. A cell which expresses **gp39** on its surface can also be used as the immunogen. Alternative immunogens include purified **gp39** protein or protein fragments. **gp39** can be purified from a **gp39**-expressing cell by standard purification techniques. Additionally, **gp39** cDNA (Armitage et al., Nature, 357:80-82 (1992); Lederman et al., J. Exp. Med., 175:1091-1101 (1992); Hollenbaugh et al., EMBO J., 11:4313-4319 (1992)) can be expressed in a host cell, e.g., bacteria or a mammalian cell line, and **gp39** protein purified from cell cultures by standard techniques. Alternatively, **gp39** peptides can be synthesized based upon the amino acid sequence of **gp39** (disclosed in Armitage et al., Nature, 357:80-82 (1992); Lederman et al., J. Exp. Med., 175:1091-1101 (1992); Hollenbaugh et al., EMBO. . . carriers or other techniques well known in the art. For example, the protein can be administered in the presence of **adjuvant**. The progress of immunization can be monitored by detection of antibody titers in plasma or serum. Standard ELISA or other. . .

DETDESC:

DETD(56)

For induction of antigen-specific T cell tolerance in a human subject, it is preferable to administer an antibody directed against human **gp39**. The following methodology was used to produce mouse anti-human **gp39** monoclonal antibodies. Balb/c mice were immunized with a soluble **gp39** fusion protein, **gp39**-CD8, in Complete Freund's **Adjuvant** (CFA). Mice were subsequently challenged 6 weeks later with soluble **gp39**-CD8 in Incomplete Freund's **Adjuvant** (IFA). Soluble **gp39**-CD8 was given in soluble form 4 weeks after secondary immunization. Mice were then boosted with activated human peripheral blood lymphocytes 2 weeks later, followed by a final boost with soluble **gp39**-CD8 after an additional 2 weeks. Splenocytes were fused with the NS-1 fusion partner on day 4 after final immunization as. . .

US PAT NO: 5,540,926 [IMAGE AVAILABLE] L2: 4 of 5

DETDESC:

DETD(41)

In various other in vivo embodiments, soluble **gp39** may be used to increase an immune response, for example, by acting, effectively, as a type of "**adjuvant**" to increase an immune response to a **vaccine**. Alternatively, soluble **gp39** may be used to increase the immune response of an immunosuppressed individual, such as a person suffering from acquired immunodeficiency. . .

US PAT NO: 4,683,136 [IMAGE AVAILABLE] L2: 5 of 5

DRAWING DESC:

DRWD(162)

Thus, . . . coupled or linked to another, primary immunogen to form a

conjugate. The resulting conjugate may then be incorporated into a **vaccine** or other inoculum as an active immunogen. In addition to the already described pre-S(2) region-containing inducer of T cell proliferation,. . . the production of an 11 kD polypeptide that may be used herein. That material was reported produced by cleavage of **GP39** and GP42; and GP33 and GP36 polypeptides, respectively, from HBV-infected serum using the Staphylococcus aureus V8 enzyme. The 11 kD. . .

```
=> s (cd40)(P)(antibod?)(P)(vaccin? or adjuvant?)

           88 CD40
        28119 ANTIBOD?
         8019 VACCIN?
        32539 ADJUVANT?
L3          3 (CD40)(P)(ANTIBOD?)(P)(VACCIN? OR ADJUVANT?)

=> d l3 1-3
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1. 5,677,165, Oct. 14, 1997, Anti-CD40 monoclonal antibodies capable of blocking B-cell activation; Mark de Boer, et al., 435/343.1, 70.21, 172.2; 530/388.22, 388.73 [IMAGE AVAILABLE]

2. 5,596,072, Jan. 21, 1997, Method of refolding human IL-13; Janice Culpepper, et al., 530/351; 424/85.2; 435/69.1; 530/402, 412; 930/141 [IMAGE AVAILABLE]

3. 5,565,321, Oct. 15, 1996, Detection of mutations in a CD40 ligand gene; Melanie K. Spriggs, et al., 435/6, 7.1, 91.1; 536/23.1, 23.5, 24.3, 24.31; 935/77 [IMAGE AVAILABLE]

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=> d l3 1-3 date
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L3: 1 of 3

TITLE:	Anti-CD40 monoclonal antibodies capable of blocking B-cell activation
US PAT NO:	5,677,165 [IMAGE AVAILABLE] DATE ISSUED: Oct. 14, 1997
APPL-NO:	08/070,158 DATE FILED: May 28, 1993
REL-US-DATA:	Continuation-in-part of Ser. No. 910,222, Jul. 9, 1992, abandoned.

L3: 2 of 3

TITLE:	Method of refolding human IL-13
US PAT NO:	5,596,072 [IMAGE AVAILABLE] DATE ISSUED: Jan. 21, 1997
APPL-NO:	08/012,543 DATE FILED: Feb. 1, 1993
REL-US-DATA:	Continuation-in-part of Ser. No. 933,416, Aug. 21, 1992, abandoned.

L3: 3 of 3

TITLE:	Detection of mutations in a CD40 ligand gene
US PAT NO:	5,565,321 [IMAGE AVAILABLE] DATE ISSUED: Oct. 15, 1996
APPL-NO:	08/184,422 DATE FILED: Jan. 21, 1994
REL-US-DATA:	Continuation-in-part of Ser. No. 9,258, Jan. 22, 1993, abandoned.

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=> d l3 1-3 kwic
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US PAT NO: 5,677,165 [IMAGE AVAILABLE] L3: 1 of 3

DETDESC:

DETD(14)

Polyclonal sera may be prepared by conventional methods. In general, a solution containing the **CD40** antigen is first used to immunize a suitable animal, preferably a mouse, rat, rabbit or goat. Rabbits and goats are . . . the preparation of polyclonal sera due to the volume of serum obtainable, and the availability of labeled anti-rabbit and anti-goat **antibodies**. Immunization is generally performed by mixing or emulsifying the antigen-containing solution in saline, preferably in an **adjuvant** such as Freund's complete **adjuvant**, and injecting the mixture or emulsion parenterally (generally subcutaneously or intramuscularly). A dose of 50-200 .mu.g/injection is typically sufficient. Immunization . . . is generally boosted 2-6 weeks later with one or more injections of the protein in saline, preferably using Freund's incomplete **adjuvant**. One may alternatively generate **antibodies** by in vitro immunization using methods known in the art, which for the purposes of this invention is considered equivalent. . . .

US PAT NO: 5,596,072 [IMAGE AVAILABLE] L3: 2 of 3

DETDESC:

DETD(231)

Eight . . . female Lewis rats were obtained from Harlan Sprague-Dawley (Indianapolis, Ind.). These rats were immunized intaperitoneally with 10 .mu.g of soluble **CD40** in complete Freund's **adjuvant** followed by boosts of 10, 10, 10, and 50 .mu.g of soluble **CD40** in incomplete Freund's **adjuvant** at 3, 4.5, 6, and 8.5 weeks, respectively. A final boost of saline was injected at 12 weeks. Test bleeds were evaluated for anti-**CD40** **antibody** content by ELISA. . . .

US PAT NO: 5,565,321 [IMAGE AVAILABLE] L3: 3 of 3

DETDESC:

DETD(24)

CD40-L KO mice are likely to be of great interest to scientists investigating the cognate interactions between T and B cells in thymus-dependent **antibody** responses, as well as various aspects of immunoglobulin isotype switching. The role of **CD40**-L in human X-linked hyper-IgM syndrome indicates that **CD40**-L KO mice would be a valuable asset for testing possible treatments (i.e., administration of soluble, recombinant ligand) for hyper IgM. Additionally, **CD40**-L knockout mice are of interest for many different types of investigation, in that these animals have an exquisitely defined genetic defect that is expected to disable one specific cellular interaction necessary for an immune response. Thus, **CD40**-L KO mice are expected to be useful as models for testing **vaccine** preparations or immune response modifiers, in defining the role of T cells and B cells in various diseases and syndromes. . .